

of a coolant, inside a body, wherein the grooves are covered with lids, the lids are joined to the body by friction stir welding, and a weld bead formed by the joining are outside the passages.

3. (Amended) A cooling plate comprising a groove, which becomes a passage of a coolant, inside a body, wherein the groove is covered with a lid, the lid is joined to the body by friction stir welding, and at least an end of a weld bead formed by the joining is formed in the body except a joining.

4. (Amended) A cooling plate comprising a groove, which becomes a passage of a coolant, inside a body, wherein the groove is covered with a lid having a width larger than the groove, the lid is joined to the body by friction stir welding and fusion welding, and a weld bead formed by the joining is outside the passage.

5. (Amended) A cooling plate comprising a groove, which becomes a passage of a coolant, inside a body, wherein one or more fins are provided inside the groove, the groove is covered with a lid having a width larger than the groove, the lid is joined to the body by friction stir welding, and a weld bead formed by the joining is outside the passage.

6. (Amended) A cooling plate comprising a groove, which becomes a passage of a coolant, inside a body, wherein the groove is covered with a lid, the lid is joined to the body by friction stir welding, and the passage is a passage closed within the body.

7. (Amended) A cooling plate comprising a groove, which becomes a passage of a coolant, inside a body, wherein the groove is covered with a lid, the lid is joined to the body by friction stir welding, and an air vent is provided in a portion forming the passage.

not shown

8. (Amended) A cooling plate comprising a groove, which becomes a passage of a coolant, inside a body, wherein the groove is covered with a lid, the lid is joined to the body by friction stir welding, the lid is joined by friction stir welding owing to insertion of a rotation tool having a shoulder and a pin, and at least an end of a weld bead of the joining is out of the joining.

9. (Amended) A cooling plate comprising two or more U grooves per one meter width, which become passages of a coolant, inside a body, wherein the grooves are covered with lids, the lids are joined to the body by friction stir welding, and the passages are passages closed within the body.

10. (Amended) A cooling plate comprising a longwise M-shaped groove, which becomes a passage of a coolant, inside a body defining a long plate, wherein the groove is covered with a lid, the lid is joined to the body by friction stir welding, and the passage is a passage closed within the body.

11. (Amended) A sputtering target comprising a target material for sputtering joined on the cooling plate according to

claim 1.

12. (Amended) A manufacturing method of a cooling plate that has a first groove, which becomes a passage of a coolant, and a second groove, which has width larger than the first groove and receives a lid on the first groove, inside a body, places the lid on the second groove, and is joined to the body, comprising joining the lid and the body together by friction stir welding owing to insertion of a rotation tool having a shoulder and a pin so that a weld bead formed by the joining may become outside the passage while the joining is performed.

13. (Amended) A manufacturing method of a cooling plate which has a groove, which becomes a passage of a coolant, inside a body, and in which a lid is joined to the groove, comprising joining the lid and the body by friction stir welding owing to insertion of a rotation tool which has a shoulder and a pin, and making the groove be a left-hand side to a traveling direction of joining when the rotation tool rotates to the left and a right-hand side to a traveling direction of joining when the rotation tool rotates to the right while joining the lid and the body.

14. (Amended) A manufacturing method of a cooling plate which has a groove, which becomes a passage of a coolant, inside a body, and in which a lid is joined to the groove, comprising joining the lid and the body by friction stir welding owing to insertion of a rotation tool which has a shoulder and a pin, and setting a center of the rotation tool in a position which is

apart from an edge of the groove by a radius of the pin or more while joining the lid and the body.

15. (Amended) A manufacturing method of a cooling plate which has a groove, which becomes a passage of a coolant, inside a body, and in which a lid is joined to the groove, comprising joining the lid and the body by friction stir welding owing to insertion of a rotation tool which has a shoulder and a pin, wherein a joining direction where the rotation tool rotates is a direction opposite to a rotational direction of the rotation tool when the joining direction by the rotation tool passes a curve while joining the lid and the body.

16. (Amended) A manufacturing method of a cooling plate which has a groove, which becomes a passage of a coolant, inside a body, and in which a lid is joined to the groove, comprising joining the lid and the body by friction stir welding, wherein joining becoming a folding of the joining is made to be joining by two straight lines while joining the lid and the body.

17. (Amended) A manufacturing method of a cooling plate which has a groove, which becomes a passage of a coolant, inside a body, and in which a lid is joined to the groove, wherein a joining of the body and the lid has a projection thicker than other sections, comprising performing joining to the projection by friction stir welding owing to insertion and movement of a rotation tool having a shoulder and a pin.

18. (Amended) A manufacturing method of a cooling plate

which has a groove, which becomes a passage of a coolant, inside a body, and in which a lid covers the groove, comprising joining the lid to the body by friction stir welding, and providing an air vent in a portion forming the passage while the lid and the body are joined by friction stir welding.

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19. (Amended) A manufacturing method of a cooling plate which has a groove, which becomes a passage of a coolant, inside a body, and in which a lid covers the groove, comprising joining the lid to the body by friction stir welding, and forming at least an end portion of the joining out of the joining while the lid and the body are joined by friction stir welding owing to insertion of a rotation tool which has a shoulder and a pin.

a<sup>2</sup>  
21. (Amended) The manufacturing method of a cooling plate according to claim 12, wherein, after the lid and the body are partially and temporarily joined by fusion welding or friction stir welding beforehand, a whole joining is joined by friction stir welding.

a<sup>3</sup>  
23. (Amended) The manufacturing method of a cooling plate according to claim 12, wherein a projection is provided in an insertion side of a joining of the body and the lid where the pin is inserted.